The Importance of Intersections:
An Interview with Professor Fred Turner

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Professor Fred Turner earned his B.A. in English and American Literature at Brown University. Professor Turner then worked extensively as a journalist, writing for a variety of publications ranging from *Nature* to *The Boston Sunday Globe Magazine.* He went on to earn his M.S. in English at Columbia University and his Ph.D. in Communication in 2002 from the University of California, San Diego. He began teaching Communication at Harvard University's John F. Kennedy School of Government and the Massachusetts Institute of Technology's Sloan School of Management. He is the author of three books: [The Democratic Surround: Multimedia and American Liberalism from World War II to the Psychedelic Sixties](#) (University of Chicago Press, forthcoming), [From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism](#) (University of Chicago Press, 2006), and [Echoes of Combat: The Vietnam War in American Memory](#) (Anchor/Doubleday, 1996; 2nd ed., University of Minnesota Press, 2001).

Currently, Professor Turner is the Director of the Stanford Program in Science, Technology, and Society. He began this role in 2011. He is also the undergraduate director of the Department of Communication at Stanford where he holds his position as Associate Professor.

MDE: You have studied a combination of English, Communication, and Journalism. What brought you to become the director of the STS program in 2011?

FT: When I went to graduate school, in 1996, after 10 years as a journalist, I was 35 years old and I had written a book about how Americans remember the Vietnam War. That book was really about the circulation of symbols−it is not about technology at all. But when I arrived to California in 1996, only a couple of years after the Internet has gone public, and I

suddenly encountered *Wired Magazine* and a whole slew of former hippies who were celebrating the Internet! To me, this was shocking because during the Vietnam Era, computers were a symbol and emblem of everything wrong with the Cold War American state. They were the tools of the American military industrial complex. So I began to wonder: How had members of the American counterculture come to celebrate what many had called the premier tool of the American military state?

I started investigating *Wired Magazine* and I ended up writing [From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism](). That was a book that taught me how incredibly important science and technology are in shaping culture in every day life, and, at the same time, how important cultural figures are in shaping what we think science and technology can be in the world. My interests are in cultural change−how do things change over time? I think what is different now is that in the mid-90s I came to appreciate how powerful technology was in shaping culture and how powerful culture was in shaping technology. Before that, I had seen technology as being outside culture somehow and in the 90s I learned otherwise.

One other piece is important: I was getting my PhD in Communication, but my minor was in Science, Technology and Society. I studied with some of the best people in the field, including Chandra Mukerji, Susan Leigh Star, Geoff Bowker−these are really strong STS scholars. I'm very proud to be able to pass on some of the things that they taught me.

MDE: What do you see as your role within the larger field of STS?

FT: I'm what we think of as a culturalist within STS. There are several schools of thought around STS. For me, STS is the best place right now to be thinking about intellectual history and intellectual change because it is the only place that I see that takes technology really seriously as a force in that process. It is one of the few disciplines that is really intellectually catholic in what it will admit into discussion. You can discuss technology, science, culture, the body, society−it is a wide-open place. If you go to the annual conference of the [Society for Social Studies of Science](), you will find folks from many different disciplines asking questions that are hard to ask in their discipline and they come to STS because it is a place where you can ask questions at the intersections of disciplines. I like to live in those intersections and STS is my home for that reason.

MDE: And that is why our journal is called *Intersect*! Next, can you tell us about what it is like to work as the director of undergraduate studies for the Department of Communication and the director of the Program in Science, Technology, and Society?

FT: I have very different roles in each. Within Communication, I am responsible for thinking about the undergraduate curriculum, ensuring that it is strong, working with my colleagues to make sure that it all works, and making sure that students are getting a good education in Communication. I do that happily. Communication as a field emphasizes technology. I think that several departments are really pillars to STS and Communication would certainly be one of those. It follows then that my role in the Communication Department is not that far intellectually from what I do in the Program in STS.

In STS, I became director about two years ago, I began by working with Allison Carruth and Dr. Kyoko Sato to revamp our curriculum. I think what I really do in STS is I try to listen for what people are excited about intellectually, and then build structures and distribute resources in ways so that they can do what they think is interesting and important to do. STS at Stanford is a kind of an intellectual melting pot—it is an intellectual intersection point and it is really adventurous and interesting intellectually—interesting for faculty, interesting for students. We meet people across lines that are, otherwise, pretty divided. In STS 1 next year we will have a professor from the medical school, Professor Sandra Soo-Jin Lee, teaching right alongside professors from the School of Education and the History Department. That is the kind of thing that we are doing and it makes it really fun. I see myself as the orchestra conductor just trying to help all of the instruments play well together, while not necessarily playing well myself.

MDE: I will open up this section with the term "interdisciplinary". The typical role of departments is to produce students with mastery over a specific discipline. Being interdisciplinary, what common thread do STS departments produce within students?

FT: STS is an attempt to understand the roles science and technology play in everyday social and cultural life. We study how science and technology change everyday life, but we also study how social and cultural factors change technology and science. Neither one exists apart from the other, and we are the place where both get taken seriously together.

In terms of disciplinary structure, we are the only program on campus to offer both a B.A. and a B.S. degree. In either case, you do about two-thirds of two majors: One in either the sciences or technology discipline, and the other in a humanistic or social sciences discipline. We have built those into five tracks, but within each track you really have to do a substantial amount of work on both sides. It is not only work on both sides in the science/humanities divide, you really have to burrow into a disciplinary area. You have to understand your disciplinary area enough in its own right to be able to think in it, and then you have to be able to apply it across that line to science and technology or vise versa. We have built the curriculum to be both very flexible and very rigorous.

MDE: What do you see as the role of STS graduates in the workforce?

FT: First off, I like to say that STS is a liberal arts education for an era that is infused with science and technology. You know, in the 19th century if you wanted to be a successful leader in any American field, first of all, you had to be a man, but setting that aside, you would study Classics, Latin, and Greek! Today, you don't need to study Latin and Greek to manage a large firm, but you'd better know something about science and technology, and you'd better know something about people as they interact with science and technology. Our graduates have been phenomenally successful. We have graduates in virtually every Silicon Valley information firm of any size. We have students that have gone on to do technology policy work in Washington. We have students who are lawyers, we have students who are teachers, we have a wide variety of outcomes−the professional outcomes are excellent. They are excellent because our students are able to identify important intellectual questions, analyze them from multiple points of view, and think about society, science, and technology all at the same time. There aren't that many folks who can do that. There are many technologists, there are many social scientists−but there aren't that many of both.

MDE: How do you see the future of STS as a field progressing alongside rapidly growing technology?

FT: As a field it is clearly growing. It is a funny field because it exists at the intersection of several other fields, so a number of universities have been reluctant to establish full departments with faculty hired into tenured positions. That is changing. A number of places are starting to develop programs. I think that there is a broad recognition across the United States and much of Europe that you can't think about what it means to be human these days without also simultaneously engaging questions from the social sciences, the humanities, and from the sciences and technology disciplines. I think it will continue to grow. I also think it is likely to stay an interdiscipline and I think that is for the good. One of STS's great strengths, especially here at Stanford, is its catholicity−its willingness to engage with multiple perspectives and keep the conversation going. We are roiling water−we are not still water in this program−and roiling water is in many ways livelier, healthier, fresher.

MDE: What five books/films/or multimedia projects do you consider to have been highly influential on your STS education?

FT:
1. Mukerji, C. (1997). *Territorial Ambitions and the Gardens of Versailles.* Cambridge, UK: Cambridge University Press.

2. Bowker, G. & Star, S. (2000). *Sorting Things Out on Classification and Its Consequences.* Cambridge, MA: The MIT Press.
3. Hales, K. (1999). *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics.* Chicago, IL: University of Chicago Press.
4. Edwards, P. (1997). *The Closed World: Computers and the Politics of Discourse in Cold War America.* Cambridge, MA: The MIT Press.
5. Latour, B. (1993). *We Have Never Been Modern.* Cambridge, MA: Harvard University Press.

For me, people are less important than questions. If I could offer a piece of advice to students, it's this: you need to identify the questions that you care most about and that animate you. My definition of a well educated college graduate is not someone who knows a lot; it's someone who knows what they care about and knows how to pursue the sorts of information that let them act effectively around what they care about. We live in a time when there is too much for any one person to know and that includes even the canonical texts in STS. If I sat you down and made you read for two years, yes you would know the fields' texts but would you know what animates you? I doubt it. I would like to see students focusing on what the questions are that seem most important to them.

Some of the most important questions for me are: What does it mean to be human when the boundaries of the body are so clearly permeable—when you can attach prosthetics, when you live half your life online or wearing earbuds? What does it mean to be human? It means something different than it did in the 18th century. What does it mean to labor when the factory is a table and a laptop in Starbucks? What does it mean to work when you work in a distributed network and not in a plant? What does it mean to be human when we can map out a genome? What *is* race, in scientific and social terms? Above all, for myself at least, I'm interested in what role technology and science play in the transformation of culture over time.

MDE: STS at Stanford has had a dynamic history. What do you see as the major structural changes within STS at Stanford over the past 43 years?

FT: The program was founded at the height of the Vietnam War. That was a time when people were very concerned, both engineers and humanists, that military industrial technology was driving us into conflict and causing potentially grievous international harm. I think that some of those fears are still alive today.

One of the things that has stayed consistent over time, and that I am proudest of, is that we have high levels of participation from engineers and humanists as well as from scientists and social scientists. We are more interdisciplinary than any other program that I know of in the United States.

I think that what has changed in the program is, first off, size. When STS was first started there were eight majors, we are now around 270. The second

is the amount of attention it pays to information technology. Computers and the Internet have simply become unavoidable. They didn't exist when the program was founded in the early 1970s. The third big structural change is the involvement of students. Our peer advisors and *Intersect* editors are highly involved. We want students to be playing at the highest level possible. We've built a community that is very integrated across different academic roles−staff, faculty, and students all talk to each other very effectively.

MDE: Can you specifically address your vision in implementing the recent curriculum changes in the STS degree programs?

FT: It is so interesting. Professor Robert McGinn directed the program for 22 years and he did an amazing job. He was trained here during the first generation of the STS department−he came from the program. Because he was the director for 22 years, much of the program structure was something that he knew really well but was hard for other folks to know. What we have done is not so much change the structure, but formalize it make it a little bit easier for new folks to grasp.

    We've done a few formal things. We've created slightly new categories for the curriculum. We have five tracks which we've designed around what we perceive student interest to be and also around what we perceive to be important questions. We've narrowed the number of courses that people could take because it was too hard to keep track of everything and guarantee quality. We've instituted a much broader advising program. We need our student to graduate both broad and deep−so ours tracks are deliberately sequential. We have 26 faculty members in the program and all of them advise students. We have also instituted a new teaching structure. We now offer STS 1, a big introductory multi-person taught class, as well as capstone courses taught by professors in their specialty area but oriented around STS questions and themes and provided for the STS seniors.

MDE: What can other universities learn from the Stanford STS departmental structure and goals?

FT: We may be the biggest STS undergraduate program in the country. I think we're big because we do two things at the same time. We ask students to train hard in the analysis of the social impact of science and technology, but we also allow students to explore science and technology as expressive places for changing the world. You can change the world by knowing it, talking about it, and writing about it−that's great−but you can also change the world by building things. We appreciate both kinds of folks.

MDE: What changes/developments do you look forward to for the Stanford STS department?

FT: The first thing that I am excited about, and I think that is the one of the biggest things, is a globalization effort that is underway. Dr. Kyoko Sato and our Student Services Administrator, Colleen McCallion are working with the Bing Overseas Program, with other departments, particularly the DLCL, to figure out how to help our student become truly global citizens. STS at Stanford, when it was founded, focused on the United States. We want to change that so we are working to add a global dimension to our curriculum. Otherwise, we are looking to hold steady for a while, as we have had a lot of change in the last few years.